Name:

at1113exam: Expand, factor, and solve quadratics (v207)

1. Expand the following expression into standard form.

$$(5x - 8)(2x - 9)$$

$10x^2 - 45x - 16x + 72$

$10x^2 - 61x + 72$

2. Expand the following expression into standard form.

$$(7x + 4)(7x - 4)$$

$49x^2 - 28x + 28x - 16$

$49x^2 - 16$

3. Expand the following expression into standard form.

$$(3x + 7)^2$$

$9x^2 + 21x + 21x + 49$

$9x^2 + 42x + 49$

4. Solve the equation.

$$(7x - 2)(5x + 9) = 0$$

$x = \frac{2}{7}$ $\quad$ $x = \frac{-9}{5}$

5. Factor the expression.

$$9x^2 - 25$$

$$(3x - 5)(3x + 5)$$

6. Solve the equation with factoring by grouping.

$$15x^2 - 18x + 10x - 12 \;=\; 0$$

$$(3x + 2)(5x - 6) = 0$$
$$x = \frac{-2}{3} \qquad x = \frac{6}{5}$$

7. Factor the expression.

$$x^2 - 4x - 21$$

$$(x - 7)(x + 3)$$

8. Solve the equation.

$$6x^2 - 20x - 30 \;=\; 3x^2 - 4x + 5$$

$$3x^2 - 16x - 35 = 0$$
$$(3x + 5)(x - 7) = 0$$
$$x = \frac{-5}{3} \qquad x = 7$$